

What is claimed

- 1 1. A flexible key for use in a keypad comprising:  
2 a top section having a first cross sectional area; and  
3 a base section connected to the top section, the base section having a second cross  
4 sectional area, the second cross sectional area smaller than the first cross sectional area.
- 1 2. The key of claim 1 wherein the key is attached to a mat.
- 1 3. The key of claim 1 wherein the key is mounted through an opening of a bezel  
2 such that the top section of the key is on a top surface of the bezel, and wherein the cross  
3 sectional area of the bezel is smaller than the first cross sectional area.
- 1 4. The key of claim 1 further comprising a conductive surface formed on an  
2 underneath side of the key.
- 1 5. The key of claim 4 wherein the key is mounted over a switch circuit on a substrate  
2 such that the conductive surface is over the switch circuit.
- 1 6. The key of claim 5, wherein the substrate is a printed circuit board.
- 1 7. The key of claim 6 wherein the conductive surface is carbon.
- 1 8. The key of claim 1 wherein at least a part of the key is translucent to allow  
2 illumination from a light source located beneath the key to be visible
- 1 9. The key of claim 6 wherein the light source is one or more light emitting diodes  
2 mounted beneath the key.
- 1 10. The key of claim 6 wherein the printed circuit board has an opening and a display  
2 is mounted on a bottom side of the printed circuit board such that the display is visible  
3 through the opening.
- 1 11. A keypad and bezel assembly comprising:  
2 a keypad comprising at least one key mounted on a mat, each of the at least one  
3 key comprising:  
4 a top section having a first perimeter;  
5 a base portion having a second perimeter, the second perimeter smaller  
6 than the first perimeter; and  
7 a bezel mountable over the keypad, the bezel having one or more openings,  
8 corresponding to the one or more keys and wherein the top section of each of the one or  
9 more keys is mounted through the each of the one or more openings such that the top

10 section of each of the one or more keys is on the top surface of the bezel and overlaps  
11 part of the bezel.

1 12. The keypad and bezel assembly of claim 11 further comprising a conductive  
2 surface formed on an underneath side each of the at least one key.

1 13. The keypad and bezel assembly of claim 11 wherein each of the at least one key is  
2 mounted over a switch circuit on a substrate such that the conductive surface is over the  
3 switch circuit.

1 14. The keypad and bezel assembly of claim 11 wherein the substrate is a printed  
2 circuit board.

1 15. The keypad and bezel assembly of claim 11 wherein at least a part of one or more  
2 of the at least one key is translucent to allow illumination from a light source located  
3 beneath the key to be visible.

1 16. The keypad and bezel assembly of claim 15 wherein the light source is one or  
2 more light emitting diodes mounted beneath the key.

1 17. The keypad and bezel assembly of claim 14 wherein the printed circuit board has  
2 an opening and a display is mounted on a bottom side of the printed circuit board such  
3 that the display is visible through the opening.

1 18. A switch comprising:

2 one or more keys mounted on a mat, each of the one or more keys having a top  
3 section, a bottom section and an undercut region formed between the top section, the  
4 bottom section and the mat, and each of the one more keys having a conductive surface  
5 mounted on an underside; and

6 a substrate having one or more switch circuits corresponding to each of the one or  
7 more keys, each of the one or more keys mounted over each of the switch circuits and  
8 wherein when each of the keys is depressed the conductive surface contracts the switch  
9 circuit, completing the circuit.

1 19. The switch of claim 18 wherein the conductive surface is carbon.

1 20. The switch of claim 18 wherein the substrate is a rigid printed circuit board.

1 21. The switch of claim 18 wherein the substrate is a flexible circuit board.

1 22. The switch of claim 18 further comprising a bezel having one or more openings  
2 corresponding to the one or more keys, each of the one or more keys mounted through

3 the one or more openings such that the top section of each of the one or more keys is on a  
4 top surface of the bezel and the bezel is in the undercut region.

1 23. The switch of claim 22 wherein the bezel is part of a case.

1 24. The switch of claim 18 wherein the at least part of at least one of the one or more  
2 keys is translucent to allow illumination from a light source to be visible.

1 25. The switch of claim 24 wherein the light source is a light emitting diode.

1 26. The switch of claim 18 wherein the key is made of silicon rubber.

1 27. The switch of claim 20 wherein the printed circuit board has an opening and a  
2 display is mounted on a bottom side of the printed circuit board such that the display is  
3 visible through the opening.

1 28. The switch of claim 18 wherein the switch controls a household appliance.

1 29. A switch comprising:

2 one or more keys mounted on a mat, each of the one or more keys having a top  
3 section, a bottom section and an undercut region formed between the top section, the  
4 bottom section and the mat, and each of the one more keys having a conductive surface  
5 mounted on an underside;

6 a substrate having one or more switch circuits corresponding to each of the one or  
7 more keys, each of the one or more keys mounted over each of the switch circuits and  
8 wherein when each of the keys is depressed the conductive surface contracts the switch  
9 circuit, completing the circuit; and

10 a bezel having one or more openings corresponding to the one or more keys, each  
11 of the one or more keys mounted through the one or more openings such that the top  
12 section of each of the one or more keys is on a top surface of the bezel and the bezel is in  
13 the undercut region.

1 30. The switch of claim 29 wherein the conductive surface is carbon.

1 31. The switch of claim 29 wherein the substrate is a rigid printed circuit board..

1 32. The switch of claim 29 wherein the substrate is a flexible circuit board.

1 33. The switch of claim 29 wherein the bezel is part of a case.

1 34. The switch of claim 29 wherein the at least part of at least one of the one or more  
2 keys is translucent to allow illumination from a light source to be visible.

1 35. The switch of claim 34 wherein the light source is a light emitting diode.

- 1 36. The switch of claim 29 wherein the key is made of silicon rubber.
- 1 37. The switch of claim 31 wherein the printed circuit board has an opening and a  
2 display is mounted on a bottom side of the printed circuit board such that the display is  
3 visible through the opening.
- 1 38. The switch of claim 29 wherein the switch controls a household appliance.
- 1 39. The switch of claim 39, wherein the household appliance is a dishwasher.